

## PART V

## CROPS

Major Crops

Adams County agriculture is becoming more diversified as more land is put under irrigation. However, wheat and other small grains, grown mostly in dryland areas, continue to be the major crops. The county ranked first in the state for harvested acreage of spring wheat and rye in 1959 and was third in winter wheat and barley. Wheat acreage has fluctuated since then, partly because of control programs. Interest in barley and rye has decreased in the last few years.

Lands brought under irrigation by the Columbia Basin Project have undergone great changes with respect to crops grown. Some newly introduced crops have attained major importance and acreage and production of some existing crops have increased.

Alfalfa hay, third in acreage, is grown mostly on irrigated land. Acreage and production have climbed steadily since large-scale irrigation began. Dry peas and dry beans, now major crops, are newcomers made possible by irrigation. The county was second statewide in dry bean acreage in 1959 and was fifth in dry peas. Potatoes are another important irrigated crop where harvested acreage has grown steadily in the last 15 years. Adams ranked third among all Washington counties in potato acreage in 1959.

Another crop becoming more important on Columbia Basin Project lands is sugar beets, for which Adams County ranked sixth statewide in 1959. Acreage has increased considerably since then. Other crops now important on irrigated land are field corn and mint for oil, especially peppermint.

Small Grains

The 1959 small grain harvest, consisting of 364,304 acres of wheat, barley, rye, and oats, accounted for 91 percent of the county's total harvested cropland. Ninety-eight percent of the harvested grain acreage was nonirrigated at that time but this has changed substantially.

## Wheat

Wheat has been the most important crop in Adams County since pioneer days. The 1959 harvested acreage accounted for 64 percent of the county's total harvested cropland. The overall trend in wheat acreage has been downward in the past 15 years because of control programs and the switch to other crops in irrigated areas. The largest harvested acreage in recent years was the 404,000 acres cut in 1952. The year 1962 was lowest with 235,400. Acreage since then has been somewhat above this level. New varieties have increased yield in the past few years. Large dryland farms throughout the central three-fourths or so of the county produce most of the wheat.

Fall sown wheat has been preferred over spring wheat to take advantage of winter moisture and protective snow cover. Fields are left idle for a year (summer fallow) for maximum moisture retention and fall soil moisture is generally

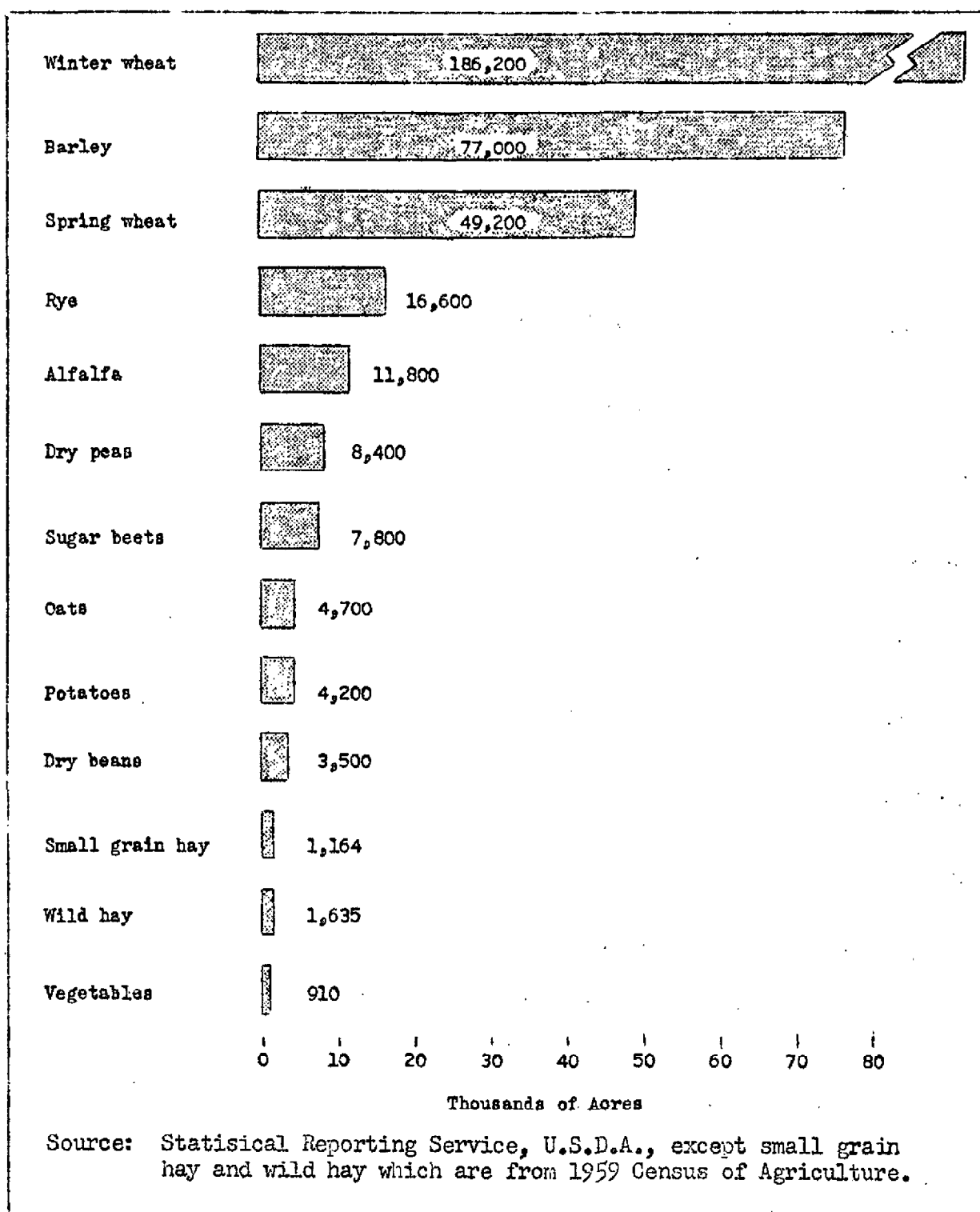


Figure 9. Acres Harvested for Major Crops in Adams County, 1962.

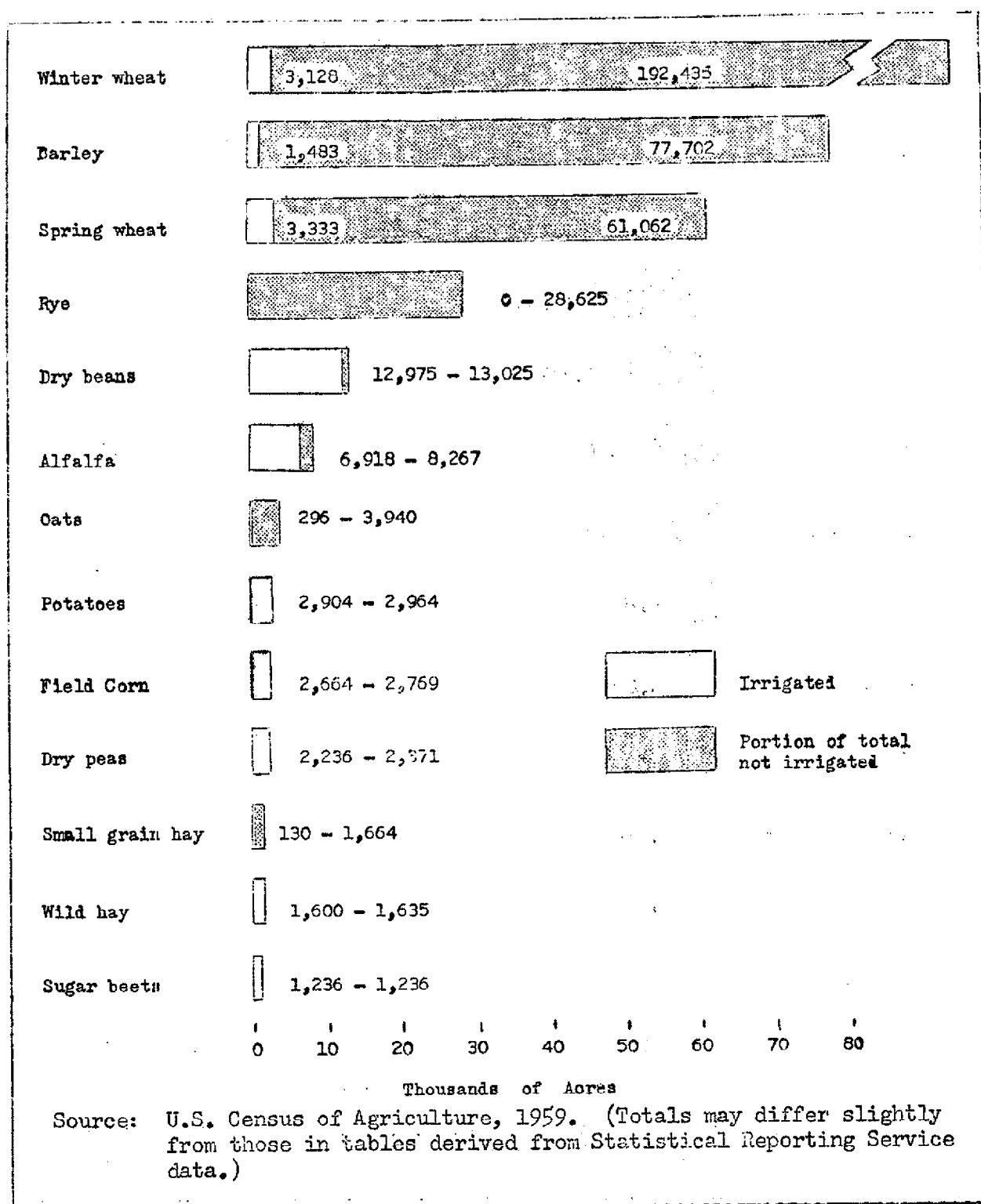


Figure 10. Total Acres Harvested and Portion Irrigated for Major Crops, Adams County, 1959.

Table 17. Wheat and Barley: Acreage, Yield and Production, Adams County, 1949-1964

Year	All Wheat			Barley		
	Acreage	Yield (bushels per acre)	Production (bushels)	Acreage (acres)	Yield (tons per acre)	Production (tons)
1949	380,000	21.9	8,310,000	530	18.5	9,800
1950	375,000	22.2	8,327,400	14,300	30.0	429,000
1951	400,000	19.7	7,892,000	1,000	30.0	30,000
1952	404,000	23.7	9,581,000	300	33.0	9,900
1953	397,400	22.8	9,071,600	1,800	36.0	64,800
1954	310,000	27.1	8,407,000	67,000	29.5	1,976,000
1955	277,800	24.6	6,825,000	90,000	19.0	1,710,000
1956	286,000	22.1	6,326,500	67,900	26.6	1,808,800
1957	288,000	31.1	8,956,050	59,600	33.0	1,964,400
1958	275,600	30.2	8,314,500	75,300	24.4	1,835,700
1959	270,800	34.0	9,194,500	80,000	34.7	2,777,500
1960	259,000	31.5	8,161,000	30,700	32.6	2,630,800
1961	267,600	24.2	6,472,200	80,000	38.1	3,050,000
1962	235,400	35.3	8,419,900	77,000	45.5	3,507,000
1963	269,200	33.5	9,009,600	74,000	29.5	2,181,600
1964 <sup>1/</sup>	282,600	30.9	8,719,200	60,000	35.5	2,130,000

<sup>1/</sup> Preliminary estimate.

Source: Statistical Reporting Service, U.S.D.A.

sufficient for germination. Usually there is enough snow to protect young plants from extreme cold. Fields that show poor germination or fail to survive the winter in good condition are generally reseeded wholly or in patches to spring wheat. Under dry soil conditions in the fall, planting is sometimes left until spring. Spring wheat acreage in any given year is strongly related to winter losses of winter wheat.

Adams County growers have experimented with many varieties of wheat. Common white wheat, ideal for pastry, is most popular. Gaines, Burt, Marfed, and Omar are the most popular common white and white club varieties, accounting for 93 percent of total wheat production in 1964. Research and experimentation in selection of varieties has involved close cooperation between federal, state, and private agencies

Barley is the second most important grain crop. The distribution pattern largely follows that of wheat. Cash-grain farmers, when their wheat acreage is limited under wheat allotment agreements, often follow summer fallow with barley. Many farmers have turned to barley to fill out their programs, to keep fields free of weeds, or to enrich the soil. Barley also has been a crop often used on newly irrigated farms. Acreage recently has been less than the 90,000 acres harvested in 1955, although production has been higher due to increased yields.

Rye, another crop often planted on nonirrigated land, is commonly used as cover to prevent wind erosion. When planted for this purpose it often serves as

Table 18. Winter Wheat and Spring Wheat, Adams County, 1949-1964

Year	Winter Wheat			Spring Wheat		
	Harvested acres	Yield (bushels per acre)	Production (bushels)	Harvested acres	Yield (bushels per acres)	Production (bushels)
1949	385,000	25.5	9,817,000	30,000	14.5	435,000
1950	329,000	34.5	11,350,500	27,000	21.0	567,000
1951	373,000	30.0	11,190,000	36,000	17.0	612,000
1952	389,000	28.0	10,892,200	23,000	19.0	437,000
1953	295,400	35.5	10,486,700	186,400	21.5	4,007,600
1954	280,000	34.0	9,520,000	59,000	25.5	1,504,500
1955	272,000	30.0	8,160,000	9,600	12.5	120,000
1956	168,300	28.0	4,712,400	103,000	25.0	2,575,000
1957	247,300	44.0	10,881,200	56,100	31.5	1,767,150
1958	266,800	42.0	11,205,600	16,600	25.0	415,000
1959	242,600	38.0	9,218,800	63,000	30.5	1,921,500
1960	250,000	32.0	8,000,000	5,000	32.0	160,000
1961	270,500	33.0	8,926,500	8,300	30.0	249,000
1962	186,200	36.5	6,796,300	49,200	33.0	1,623,600
1963	260,600	33.5	8,730,100	8,600	32.5	279,500
1964 <sup>1</sup>	228,600	32.0	7,315,200	54,000	26.0	1,404,000

<sup>1/</sup> Preliminary estimate.

Source: Statistical Reporting Service, U.S.D.A.

pasture and then is plowed under as a green manure crop. Rye once was used for livestock feed on the farm where grown but today most of it is sold. Harvested acreage has gone from 160 acres in 1949 to a high of 43,000 acres in 1957, then to 16,600 acres in 1962.

A minor grain crop used largely for livestock feed on the farm where grown is oats. This grain is commonly fed directly, ground with corn for young animals, or fed to cattle as part of a ration. Oats often alternate with wheat and barley in crop rotations on some farms. Although oats are best suited to cool, moist regions, most of Adams County's acreage is in dryland wheat areas. Yield is often reduced by hot, dry summer weather. Acres harvested has varied from 260 to 8,800 since 1949.

#### Hay Crops

Alfalfa is well adapted to the irrigated fields of Adams County. This crop needs sunshine, warmth, and large amounts of water for maximum yields, yet is tolerant of drought and heat. Acreage has steadily increased since irrigation began in the early 1950's, reaching 11,800 harvested acres in 1962. Yields have averaged over 5 tons per acre in good years. Demand for hay with a high protein test has led to production of higher quality alfalfa. Processing alfalfa as meal, pellets, wafers, and mixed ration feeds is an expanding industry.

Table 19. Classes and Varieties of Wheat Grown in Adams County, 1964.

Classes and varieties of wheat	Production (bushels)	Percent of total crop
COMMON WHITE	5,577,300	64.0
Gaines	2,757,200	31.6
Burt	1,418,500	16.3
Marfed	1,289,500	14.8
Federation	4,100	0.1
Baart	73,900	0.8
Idaed	27,500	0.3
Brevor	700	Trace
Orfed	6,600	0.1
WHITE CLUB	2,821,000	32.3
Omar	2,607,000	29.9
Elgin	179,200	2.0
Elmar	34,800	0.4
HARD RED WINTER	311,900	3.6
Turkey-Rio	253,900	2.9
Itana	29,000	0.3
Columbia	13,000	0.2
Cheyenne	16,000	0.2
HARD RED SPRING	6,200	0.1
Thatcher	6,200	0.1
DURUM	2,800	Trace
Wells	1,400	Trace
Sentry	1,400	Trace

Trace equals less than 0.1%

Source: Statistical Reporting Service, U.S.D.A.

Table 20. Oats and Rye: Acreage, Yield and Production, Adams County, 1949 - 1962.

Year	Oats			Rye		
	Harvested acres	Yield (bushels per acre)	Production (bushels)	Harvested acres	Yield (bushels per acre)	Production (bushels)
1949	260	21.0	5,450	160	10.5	1,680
1950	3,900	28.0	109,200	700	13.0	9,100
1951	600	32.0	19,200	750	11.1	8,300
1952	500	36.0	18,000	350	7.6	2,650
1953	680	35.0	23,800	800	9.5	7,600
1954	4,400	32.0	140,700	7,400	14.0	103,600
1955	8,800	21.0	184,800	8,200	10.0	82,000
1956	3,500	46.0	161,000	15,900	10.5	166,950
1957	4,500	51.0	229,500	43,000	19.0	817,000
1958	3,500	31.5	110,200	35,000	19.0	665,000
1959	4,100	47.5	194,800	29,400	19.0	558,600
1960	3,200	54.0	172,800	28,500	18.0	513,000
1961	2,800	42.0	117,600	29,000	22.0	638,000
1962	4,700	56.0	263,200	16,600	18.0	298,800

Source: Statistical Reporting Service, U.S.D.A.

Table 21. Alfalfa Hay and Clover-Timothy Hay Acreage, Yield and Production, Adams County, 1951-1962.

Year	Alfalfa Hay			Clover and Timothy Hay		
	Harvested acres	Yield (tons per acre)	Production (tons)	Harvested acres	Yield (tons per acre)	Production (tons)
1951	550	3.3	1,800	20	2.0	40
1952	600	4.0	2,400	30	1.7	50
1953	880	4.5	4,000	40	2.0	80
1954	1,540	4.0	6,100	50	1.8	90
1955	1,940	3.4	6,700	50	1.0	50
1956	3,200	4.0	12,800	60	1.0	60
1957	4,500	5.4	24,300	50	2.2	110
1958	7,000	5.0	35,000	40	2.0	80
1959	8,400	4.5	37,800	40	2.0	80
1960	8,100	4.6	37,500	40	2.0	80
1961	11,400	3.4	38,300	50	2.8	140
1962	11,800	4.5	52,700	50	2.4	120

Source: Statistical Reporting Service, U.S.D.A.

Interest in cutting small grain for hay has declined since 1919 when 32,230 acres were harvested. Wild hay cut has remained between 1,500 and 2,500 acres since 1929. Silage crops have gained some popularity in recent years with the increase in irrigation and livestock feeding operations. Clover and timothy hay is a minor crop in Adams County.

Table 22. Hay Crops other than Alfalfa and Clover-Timothy: Acres Harvested and Production in Adams County, 1919-1959.

Year	Small grains cut for hay		Wild hay		Silage from grass, hay, or small grains		Other hay	
	Acres	Prod. (tons)	Acres	Prod. (tons)	Acres	Prod. (tons)	Acres	Prod. (tons)
1919	32,230	23,573	371	509	---	---	894	520
1929	15,896	12,355	2,350	2,705	No data	No data	31	32
1939	5,641	6,705	1,498	1,926	---	---	2,217	3,562
1949	3,078	4,846	2,015	2,280	---	---	82	76
1954	3,534	3,880	2,212	2,471	112	460	248	141
1959	1,664	2,621	1,635	2,530	287	2,532	150	170

Source: U.S. Census of Agriculture.

Dry Beans and Peas

Washington's dry field and seed bean production is largely confined to irrigated fields in Adams, Grant and Franklin Counties which are in the Columbia

Basin Project. Dry beans are popular on newly irrigated land in central Washington as they do well and provide a quick cash income. Harvested acreage in Adams County went from 3,491 acres in 1954 to 13,025 in 1959 and has declined since. Beans do well for about three years--the land then is planted to other crops for a few years before being returned to beans. Reduction in overseas outlets also has been responsible for reduced acreage since the 1959 peak. Dry beans are used mostly as human food. Red Mexican--known as "small reds" in the trade--is the most important variety, accounting for about half the 1963 acreage. Others are Pinto, Great Northern, Small Flat White, and Pink.

Dry field and seed peas have spread from the primary growing areas in eastern Washington's dryland wheat region to the Columbia Basin with the coming of irrigation. Peas restore nitrogen and act as a green manure and cover crop as well as providing a cash income. The number of harvested acres went from 2,371 in 1959 to 8,400 in 1962, then dropped to an estimated 3,800 in 1963. Most of the crop grown in the Columbia Basin is used for seed.

Table 23. Dry Peas and Dry Beans: Acreage, Yield, and Production in Adams County, 1944-1963.

Year	Dry Peas			Dry Beans		
	Harvested Acres	Yield (pounds per acre)	Production (000 pounds)	Harvested Acres	Yield (pounds per acre)	Production (000 pounds)
1944	200	1,085	217	0	0	0
1949	0	0	0	0	0	0
1954	0	0	0	3,491	1,762	6,150
1959	2,371	2,855	6,769	13,025	1,807	23,541
1960	3,000	3,900	11,700	10,000	2,000	20,000
1961	6,600	2,470	16,302	4,200	2,030	8,526
1962	8,400	3,130	26,292	3,500	1,940	6,790
1963 <sup>1/</sup>	3,800	2,790	10,585	1,700	1,912	3,250

<sup>1/</sup> Preliminary estimate.

Source: U.S. Census of Agriculture through 1959, Statistical Reporting Service, U.S.D.A., for 1960-1963.

### Sugar Beets

Requirements of a long, warm growing season, fertile soil, and plentiful water make sugar beets an ideal crop for the county's new irrigation areas. Besides its importance for sugar, the sugar beet is a valuable rotation crop and the tops furnish livestock feed. Harvested acreage has increased steadily, from 40 acres in 1954 to 9,000 in 1963. Recent elimination of acreage controls by the U.S. Department of Agriculture helped increase the amount of land put into sugar beet production. A refinery at Moses Lake (Grant County) provides a nearby market. Most of the sugar is shipped outside the state.



Table 24. Sugar Beets: Acreage, Yield and Production, Adams County, 1949-1963

Year	Sugar Beets		
	Harvested acres	Yield (tons per acre)	Production (tons)
1949	--	--	--
1954	40	18.0	720
1959	1,236	23.7	29,278
1960	2,400	25.3	60,800
1961	7,600	25.8	196,000
1962	7,800	26.1	203,200
1963	9,000	27.1	243,800

Source: U.S. Census of Agriculture through 1959, Statistical Reporting Service, U.S.D.A., for 1960-1963

### Potatoes

Potato acreage has grown steadily in Adams County, from 70 acres in 1949 to 5,990 in 1963. Strictly an irrigated crop here, potatoes are harvested either in late summer or fall. The late summer crop is marketed immediately. Most fall potatoes go into storage for winter marketing. Russet is the most popular variety—others include the round red and white rose.

Table 25. Potatoes: Acreage, Yield and Production, Adams County, 1949-1963.

Year	Potatoes		
	Harvested acres	Yield (tons per acre)	Production (tons)
1949	70	7.1	500
1950	50	7.0	350
1951	150	11.0	1,650
1952	200	11.0	2,200
1953	250	12.0	3,000
1954	350	16.3	5,700
1955	1,250	15.1	18,900
1956	4,500	12.4	56,000
1957	3,540	15.3	54,150
1958	3,600	14.0	50,400
1959	4,130	11.5	47,500
1960	3,800	14.0	53,200
1961	4,500	17.0	76,500
1962	4,200	15.5	65,300
1963	5,990	16.9	101,500
1964 <sup>1/</sup>	5,910	16.6	98,000

<sup>1/</sup> Preliminary estimate.

Source: Statistical Reporting Service, U.S.D.A.

Field Corn

A few years ago most of the field corn crop was harvested for grain and used principally in poultry feeds, egg mash, and livestock feed. County farmers in recent years have been cutting sizable portions of the crop for silage. Acres harvested for grain increased steadily from 10 in 1949 to 2,800 in 1959, then decreased as silage accounted for more of the crop. Washington is a corn deficit area and imports a substantial amount each year from midwestern states to meet feed requirements.

Table 24. Field Corn: Acreage, Yield and Production,  
Adams County, 1949-1964.

Year	Acres Planted for all Purposes	Harvested for Grain		
		Acres	Yield (Bu. per acre)	Production (bushels)
1949	No data	10	14.0	140
1950	No data	10	30.0	300
1951	No data	10	15.0	150
1952	No data	60	22.2	1,330
1953	No data	160	21.9	3,500
1954	870	670	59.0	39,540
1955	670	410	82.0	33,620
1956	700	500	70.0	35,000
1957	1,300	740	72.0	53,280
1958	2,000	1,300	76.0	98,800
1959	3,600	2,800	93.0	260,400
1960	4,000	2,300	85.0	195,500
1961	1,700	1,000	95.0	95,000
1962	1,400	500	90.0	45,000
1963	2,400	600	90.5	54,300
1964 <sup>1/</sup>	2,400	900	100.0	90,000

<sup>1/</sup> Preliminary estimate.

Source: Statistical Reporting Service, U.S.D.A.

Mint

Peppermint and spearmint grown for mint oil have become a lucrative specialty crop in the county's irrigated areas. Mint is harvested similarly to hay, allowed to sun cure, and treated in "mint stills" to extract oil from the leaves. Much of the oil is used as flavoring in chewing gum and toothpaste. Other markets are candy, ice cream, and extract companies, pharmaceutical houses, and jelly and jam processors.

Recently there has been some shift in mint production from the principal area in the Yakima Valley to newly irrigated fields in the Columbia Basin. Mint will probably continue to gain in importance on these new fields. Peppermint acreage in Adams County has grown steadily since its introduction in 1959, reaching an estimated 1,830 acres in 1964. Spearmint has also increased although acreage is less than peppermint.

Table 25. Mint for Oil: Peppermint and Spearmint, Adams County, 1958-1964.

Year	Peppermint			Spearmint		
	Harvested Acreage	Yield (pounds per acre)	Production (pounds)	Harvested Acreage	Yield (pounds per acre)	Production (pounds)
1958	0	0	0	0	0	0
1959	260	70.0	18,200	30	70.0	2,100
1960	300	70.0	21,000	50	48.0	2,400
1961	450	80.0	36,000	50	84.0	4,200
1962	800	60.0	48,000	70	100.0	7,000
1963	1,300	76.9	100,000	240	83.3	20,000
1964 <sup>1/</sup>	1,830	76.5	140,000	530	79.2	42,000

<sup>1/</sup> Preliminary estimate.

Source: Statistical Reporting Service, U.S.D.A.

Vegetables

County vegetable growers have benefited by proximity to processing facilities in Othello and in neighboring counties. Although still a relatively minor part of Adams County's agriculture, acreage has been increasing. The 1964 harvest, from 1,410 acres, consisted of the following major vegetables: sweet corn (730 acres), green peas for processing (380 acres), and dry onions (300 acres). Small quantities of watermelons and asparagus have been grown in years past but no commercial acreage was reported in 1964. Vegetable acreage typically reflects processor demand and fluctuates from year to year.

Table 26. Acreage and Production of All Vegetables, Sweet Corn, and Green Peas for Processing in Adams County, 1956-1964.

Crop Year	All Vegetables <sup>1/</sup>		Sweet Corn		Green Peas for Proc.	
	Harvested acres	Production (tons)	Harvested acres	Production (tons)	Harvested acres	Production (tons)
1956	80	375	80	375	0	0
1957	130	1,200	130	1,200	0	0
1958	240	3,000	100	800	0	0
1959	220	3,230	10	80	0	0
1960	340	4,510	30	150	0	0
1961	360	4,130	100	400	0	0
1962	910	9,020	500	5,300	200	300
1963	1,420	8,450	550	2,800	630	800
1964 <sup>2/</sup>	1,410	11,240	730	4,100	380	640

<sup>1/</sup> Includes the following vegetables: sweet corn, green peas for processing, dry onions, watermelons, and asparagus.<sup>2/</sup> Preliminary estimate.

Source: Statistical Reporting Service, U.S.D.A.

Table 27. Acreage and Production of Dry Onions, Watermelons, and Asparagus in Adams County, 1956-1964.

Crop Year	Dry Onions		Watermelons		Asparagus	
	Harvested acres	Production (tons)	Harvested acres	Production (tons)	Harvested acres	Production (tons)
1956	0	0	0	0	0	0
1957	0	0	0	0	0	0
1958	140	2,200	0	0	0	0
1959	160	2,880	30	240	20	30
1960	260	4,150	30	180	20	30
1961	200	3,400	40	300	20	30
1962	150	3,150	40	240	20	30
1963	200	4,450	40	400	0	0
1964	300	6,500	0	0	0	0

Source: Statistical Reporting Service, U.S.D.A.

Other Crops

Interest in tree fruit production has declined greatly since the early 1900's. By 1954 orchards covered only 2 acres. Subsequent planting of apple trees brought orchards to 54 acres in 1959. Fruit production that year amounted to only 1,421 bushels of apples and small quantities of peaches, cherries, and grapes. Berry production is also minor, amounting to 1,950 pounds of strawberries and 2,028 pounds of raspberries in 1959.

Table 28. Number of Fruit Trees or Vines of Bearing Age, Adams County, 1900-1959

Year	Apples	Pears	Peaches	Cherries	Plums & Prunes	Apricots	Grapes
1900	23,884	2,524	1,220	2,398	4,051	671	no data
1910	28,873	5,192	1,483	3,597	5,128	1,285	no data
1920	16,512	1,618	549	1,019	919	96	99
1930	797	197	39	85	109	49	227
1940	45	9	35	9	17	69	no data
1950	100	13	44	30	26	47	10
1954 1/	10	3	7	2	1	3	6
1959 1/	2,582	6	40	83	13	12	48

1/ Data from farms having less than 20 trees or vines not included.

Source: U.S. Census of Agriculture.

Growing hay and grass crops for seed now provides some Adams County irrigation farmers with a supplementary cash income. Acreages vary from year to year. Production and acreage in 1959 consisted of 144,250 pounds of alfalfa seed from 239 acres, 2,450 pounds of wheatgrass seed from 167 acres, and 20,000 pounds of red clover seed from 48 acres.